# User Manual
# Vollmer Steady Control
# PLC/HMI

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# 2 System Description

The Vollmer PLC/VISU steady control, controlls the connected steadys and coordinate the data exchange to a higher level controller.
The visualization (HMI) enables the operation and displays the systems status. Various data sets can be managed.
The nominal value data transfer with the steadys is done automatically.

The system consists manual and automatic mode.
In manual mode the steadys are operated by the HMI. In automatic mode the steadys are operated by the higher level control (Customer Interface). The scope of supply is customised.

## 2.1 Scope of supply

| | |
|---|---|
| **Achsen /Axes** | **6** |
| | |
| **Customerinterface** | |
| Basic I/O | **x** |
| Advanced I/O | |
| Profibus | |
| | |
| **Datensätze / Dataset** | **15** |
| | |
| **Sprachen / Languages** | |
| German | **X** |
| Englisch | **X** |
| Italy | |
| French | |
| | |
| **Optionen** | **VSS** |
| | |
| | |
| | |

# 3 General

## 3.1 contents of the manual and limits

This manual describe the operating of an HMI (visualization / TP270) related to an Vollmer steady control

**Danger**
Additional to this manual attention should by paid to the producer manual of company Siemens. This is delivered by Vollmer with the documentation. It is also possible to order the manual at Company Siemens.

## 3.2 Safety Guidelines

This manual contains notices which you should observe to ensure your own personal safety as well as to avoid property damage. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring to property damage only have no safety alert symbol.

**Danger**
indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

**Warning**
indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

**Caution**
used with the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

**Caution**
used without safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

**Notice**
used without the safety alert symbol indicates a potential situation which, if not avoided, may result in an undesirable result or state.

When several danger levels apply, the notices of the highest level (lower number) are always displayed. If a notice refers to personal damages with the safety alert symbol, then another notice may be added warning of property damage.

## 3.3 Qualified Personnel

The device/system may only be set up and operated in conjunction with this documentation. Only qualified personnel should be allowed to install and work on the equipment. Qualified persons are defined as persons who are authorized to operate the machine for whom this device is made for in accordance with established safety practices and standards.

## 3.4 Intended Use

Please note the following:

**Warning**

This device and its components may only be used for the applications described in this technical description.

This product can only function correctly and safely if it is transported, stored, set up and installed correctly, and operated and maintained as recommended.

# 4 Getting started

## 4.1 System Start

After switch on the HMI (TP270) starts automatically. The runtime software is started and a connection to the PLC is generated. The HMI displays the start up screen.

## 4.2 Navigation and Operation

The display is separated in three ranges.

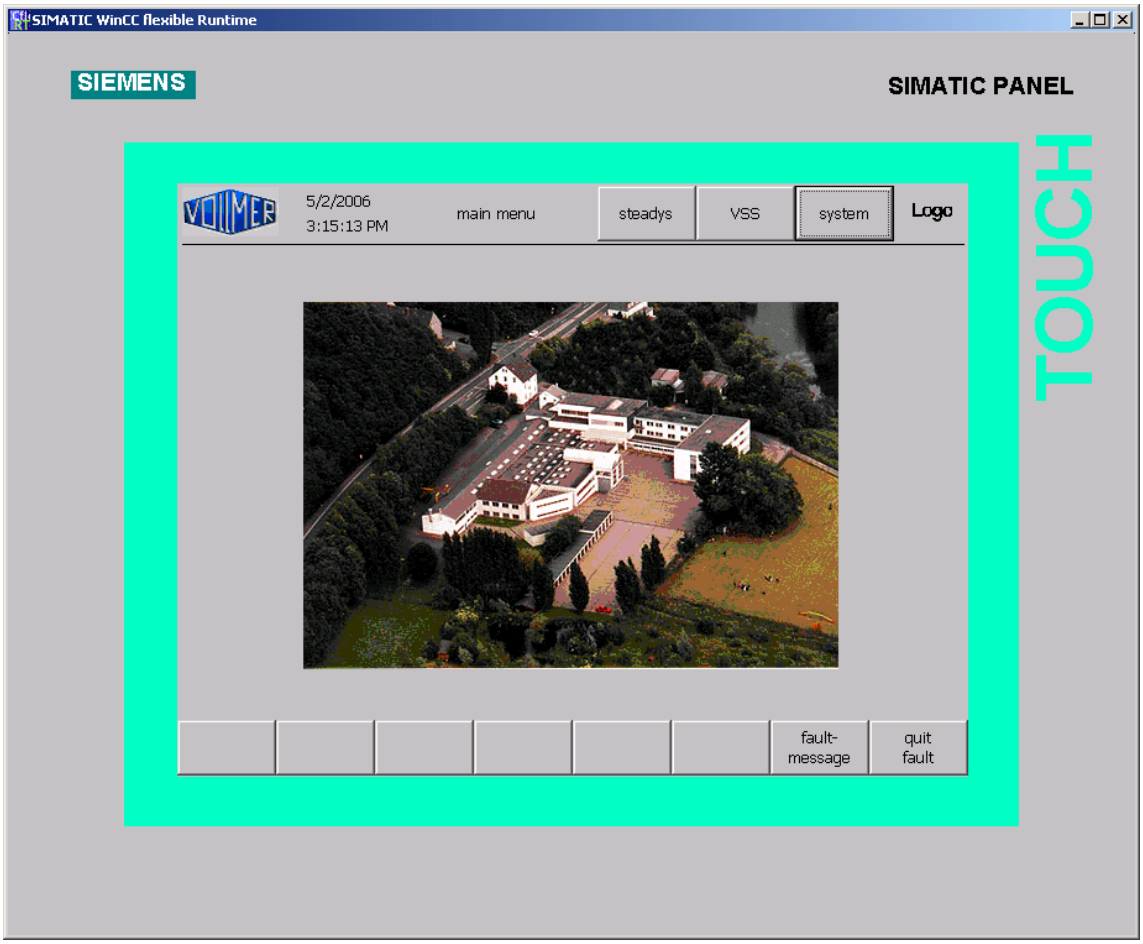
The header (as described in the navigation) displays left side next to the Vollmer logo date and time (system time of the TP270). Please also view the description of time settings and synchronize with the PLC. The display name is shown in the middle of the header. On the right side there are three function keys for navigation.
The footer (as described in the navigation) consists of eight function keys, which enables certain functions depending on the range that is currently being used.
The middle of the screen is predominantly for the in- and output elements.

## 4.3 Arrangement

See screen „help“

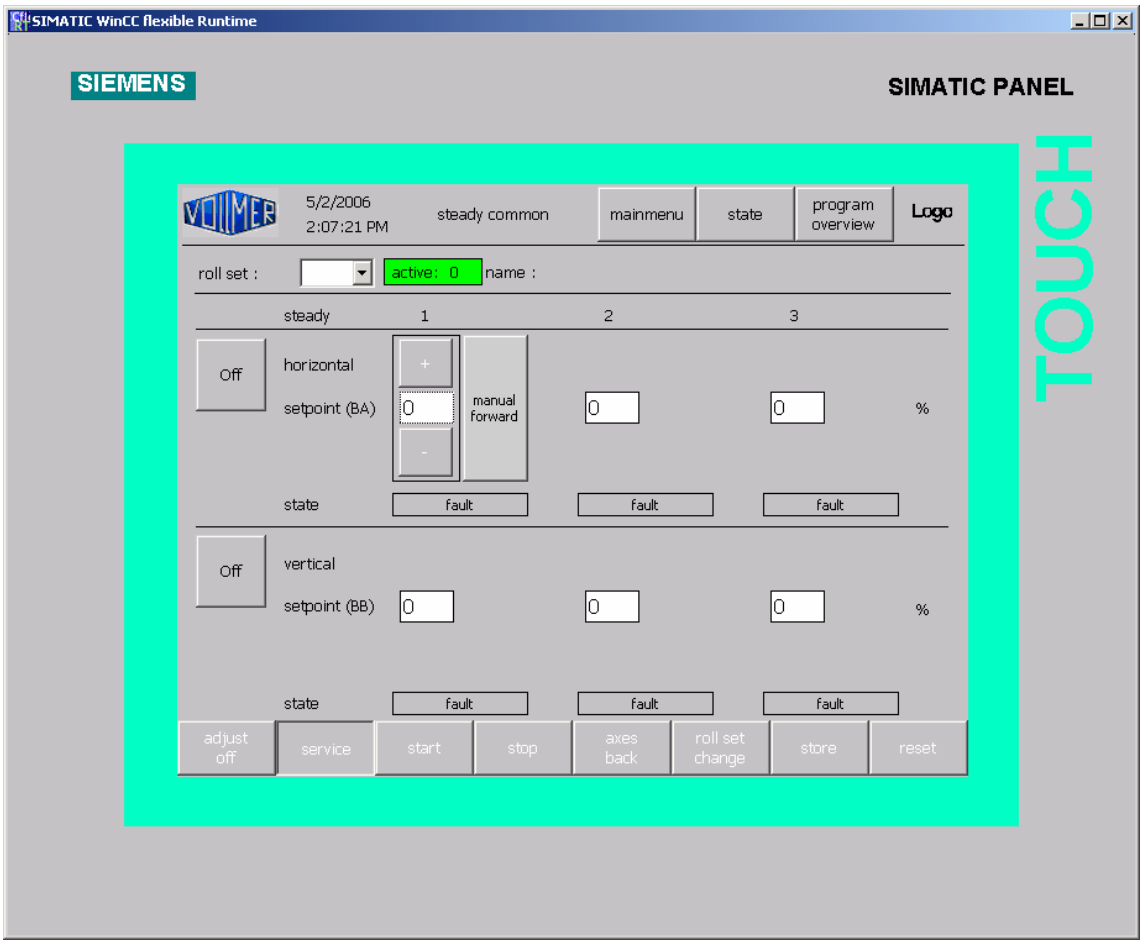
# 5 Sreens

## 5.1 Main menu




The main menu enables navigation and to quit indicated fault messages.

## 5.2 Steady common




This screen shows a system with 6 axes. Systems with various number of axes according to this screen.

### 5.2.1 Operating conditions

The operation of the system works in conjunction with the status of the settings (i.e. automatic or manual mode). The following chart shows the coherence, whereby all conditions have to be fulfilled.

| | Adjust off | Service | Start | Stop | Axes back | Roll set change | Store | Reset |
|---|---|---|---|---|---|---|---|---|
| **Hand** | 1 | 1 | 1 | x | 1 | 1 | 1 | x |
| **Service** | 0 | x | 0 | x | x | x | x | 1 |
| **Release Steadys Forward** | x | x | 1 | x | x | x | x | x |

0=off; 1=on; x=irrrelevant

#### 5.2.1.1 Adjust off

On/Off

#### 5.2.1.2 Service

On/Off

#### 5.2.1.3 Start

Starts the movement of the axis.

#### 5.2.1.4 Stop

Stops all axis.

#### 5.2.1.5 Axes back

Starts the movement back.

#### 5.2.1.6 Roll set change

Initializes a roll change.

#### 5.2.1.7 Store

Saves all the current data permanently to the selected data set.

#### 5.2.1.8 Reset

*Operated by administrators.*

**Notice**
Hardware reset of the axis.

### 5.2.2 Select Axes

Enables movements with or without horizontal or vertical axis.

### 5.2.3 State

Displays the status of an axis as a short message. Detailed information can be found in the „Status“ sreen.

### 5.2.4 Setpoint setting

Can be operated when the preset data set is currently being used.
Enables the nominal size preset in one (1) percent (%) steps. Nominal size changes are directly taken over.

### 5.2.5 Navigation setpoint setting

By clicking the nominal size display, the operating keys move to the “Nominal Size Presets „ and to their respective axis.

### 5.2.6 Selection roll set and actual roll set

*Operated in the manual mode.*
In the automatic mode the customer interface makes the selection.
The selection of the roll set is done via the selection field „Roll Set“. The taking over is completed by activating „Roll Change“. The new roll set is then displayed as „Current“.

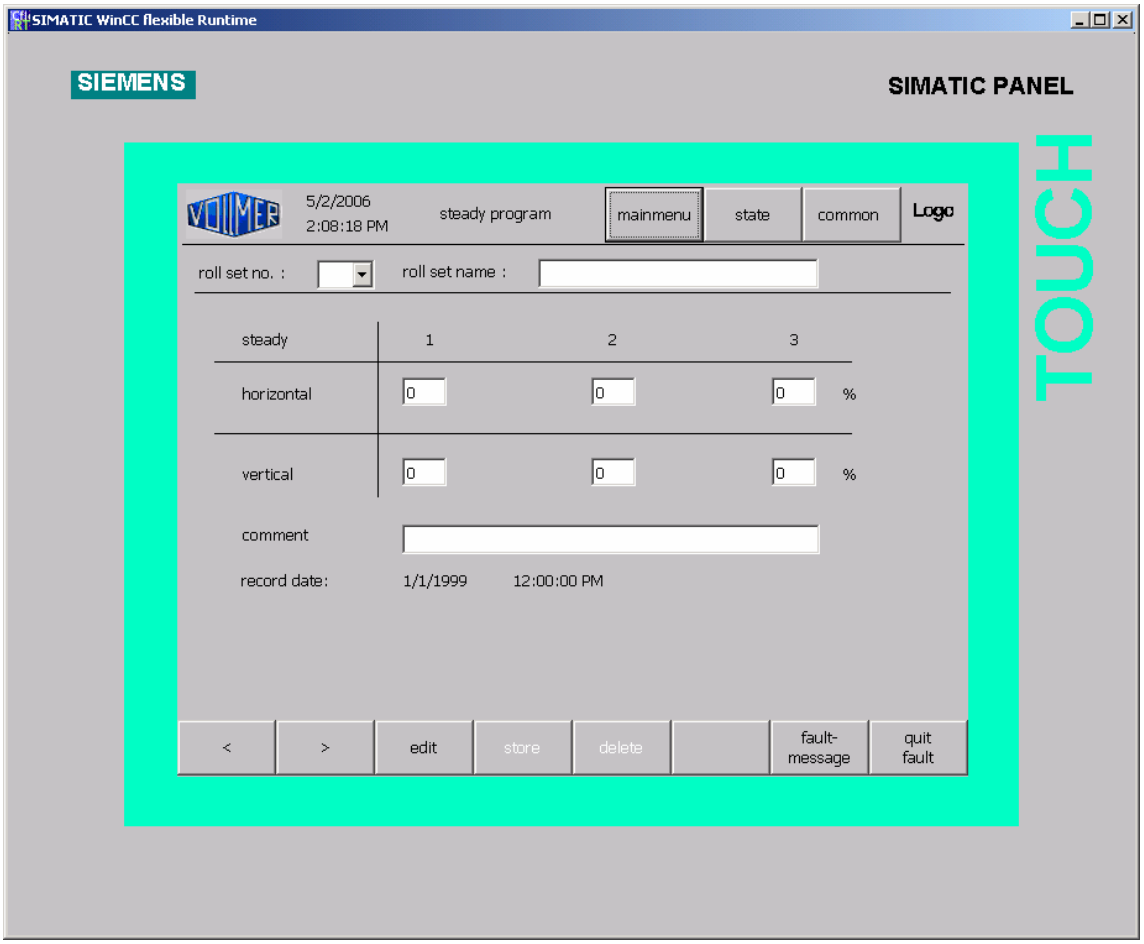
### 5.2.7 Roll set name

The roll set name is displayed in the „Name“ field.

### 5.2.8 Hand forward

*Operated in service mode.*
Starts the movements forward of a single axis.

## 5.3 Steady program




The program overview enables the viewing and editing of data sets.
It is to be noted that the settings are independent of the common screen as well as the current machine data. If the data set is changed, which is currently active in the common screen, the changes are only valid after an explicit data set change.
In the appendix the default data sets are documented.

### 5.3.1 Select Data Set

The selection can be done in the selection field „Roll Set No.“ or using the „<“ and „>“ keys.

### 5.3.2 Edit and savings

If a data set has to be changed, it can be done by selecting „Edit“. Nominal values can be selected in steps of one (1) percent (%). In the field „Roll set Name“ texts having a length of up to 40 characters and in the field „Comments“ up to 80 characters can be made.
The data set is permanently stored when selecting „Save“.

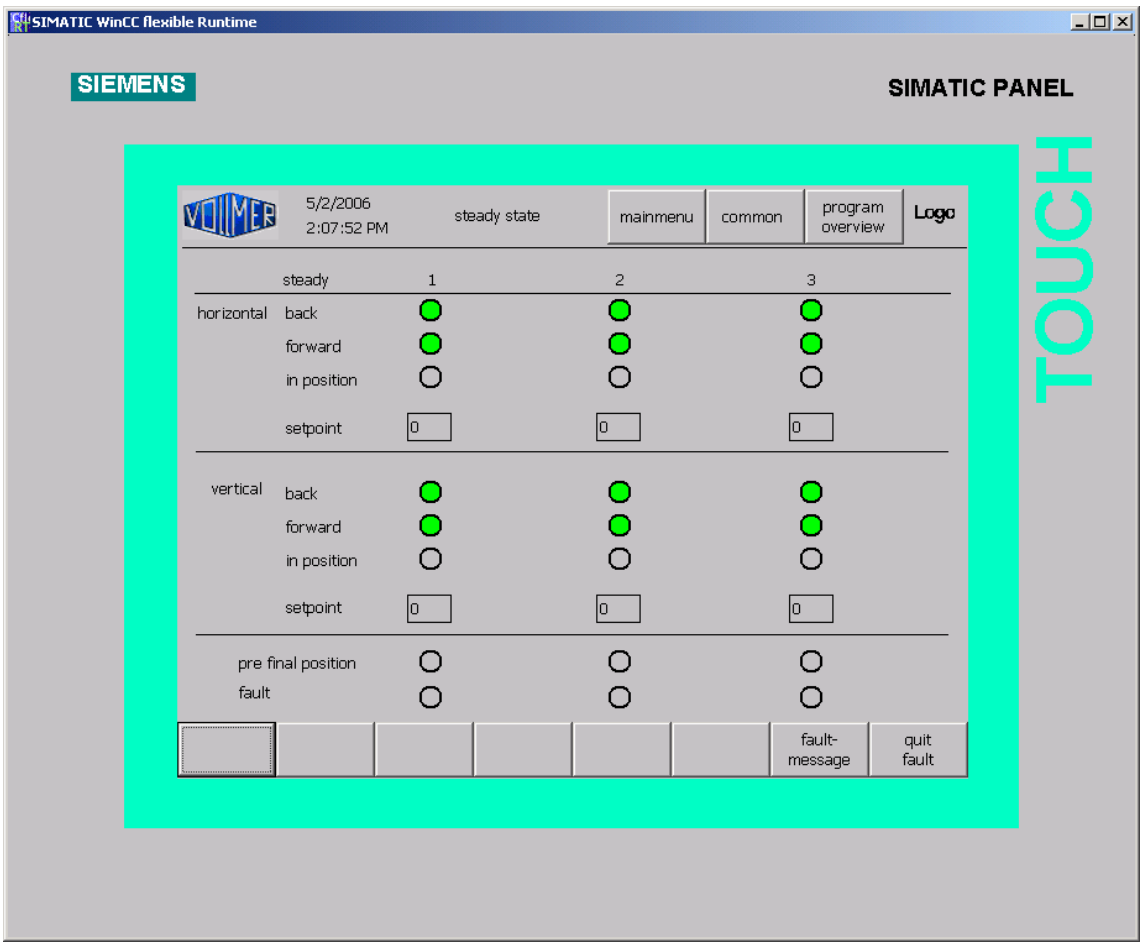
### 5.3.3 Delete

Intialise the data set with the default value 0.

### 5.3.4 Save Date

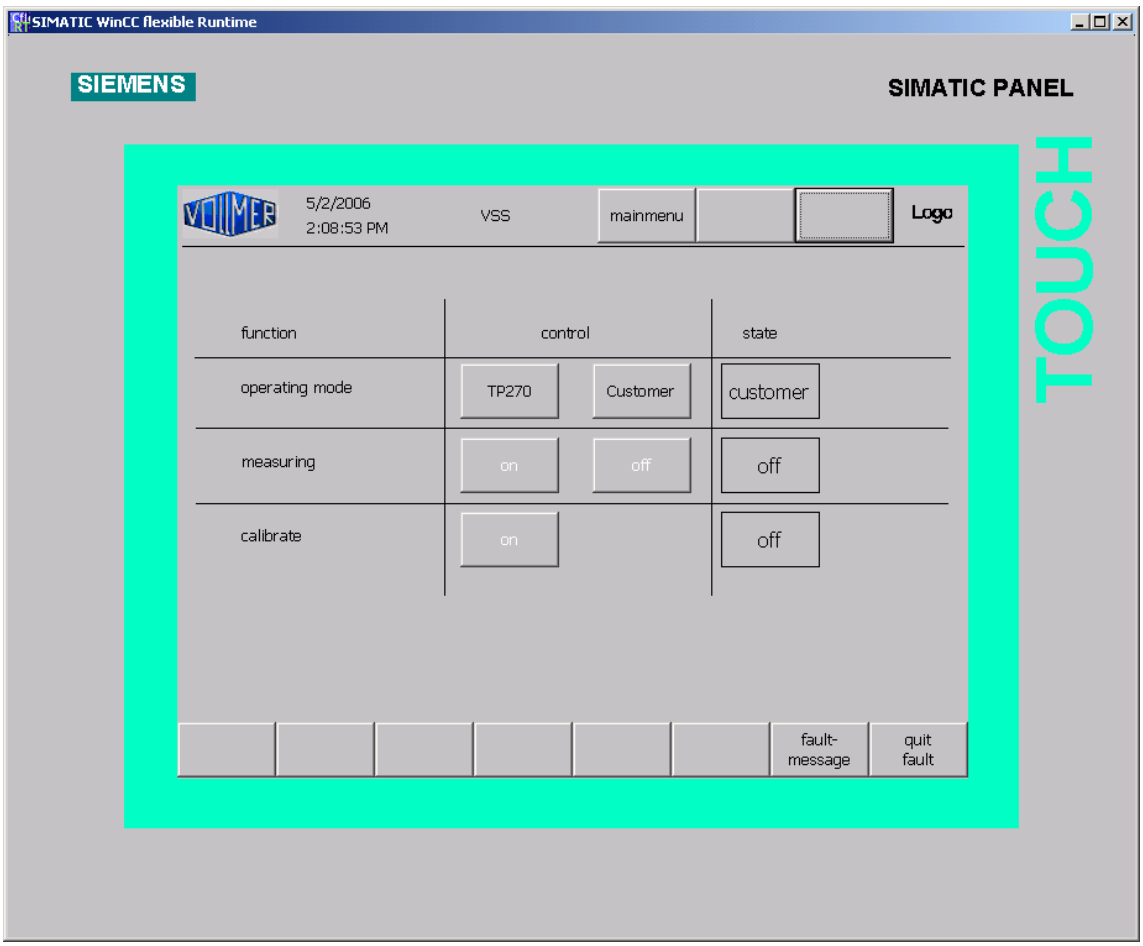
With the command „Save“ or „Delete“ the current system time is used as the save date.

## 5.4 Steady state




”Status“ provides an overview of the current system status. A fault message is displayed in the status window as a blinking button „Fault Message“ in the lower right corner of the screen. The fault can be viewed or exited by selecting the „Fault Message“ screen.

## 5.5 VSS




### 5.5.1 Operating mode

As command source for operating the TP270 (HMI) or the customer interface can be selected. The selection is shown by the statedisplay.

### 5.5.2 Measuring

*Operated by HMI mode*

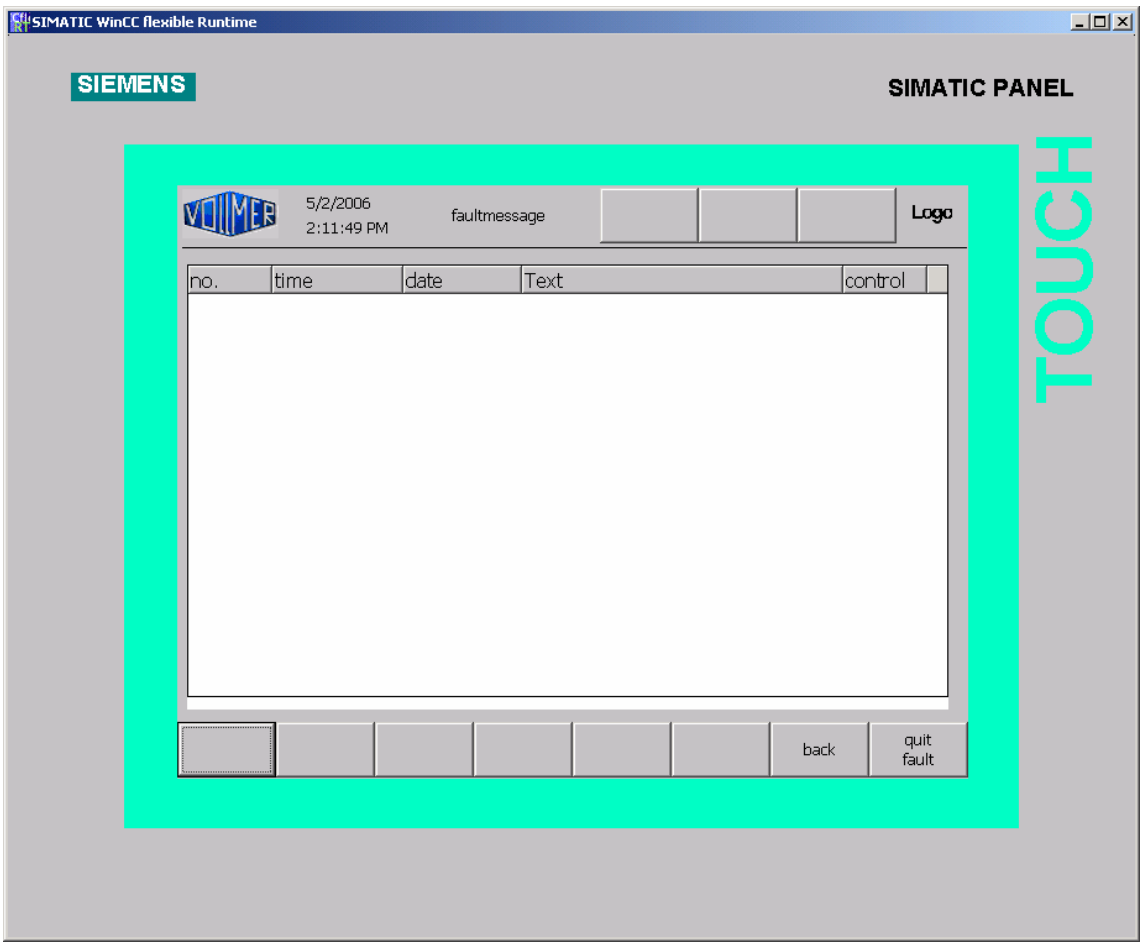
The measuring can be switched on or off. The state is shown in the display. Enable the measuring also possible if the measuring device is not calibrated.

### 5.5.3 Calibrate

*Operated by HMI mode*

Starts the calibration mode the state is shown in display.
If the check time is exceed and the check back signal is not recieved a fault message is displayed.

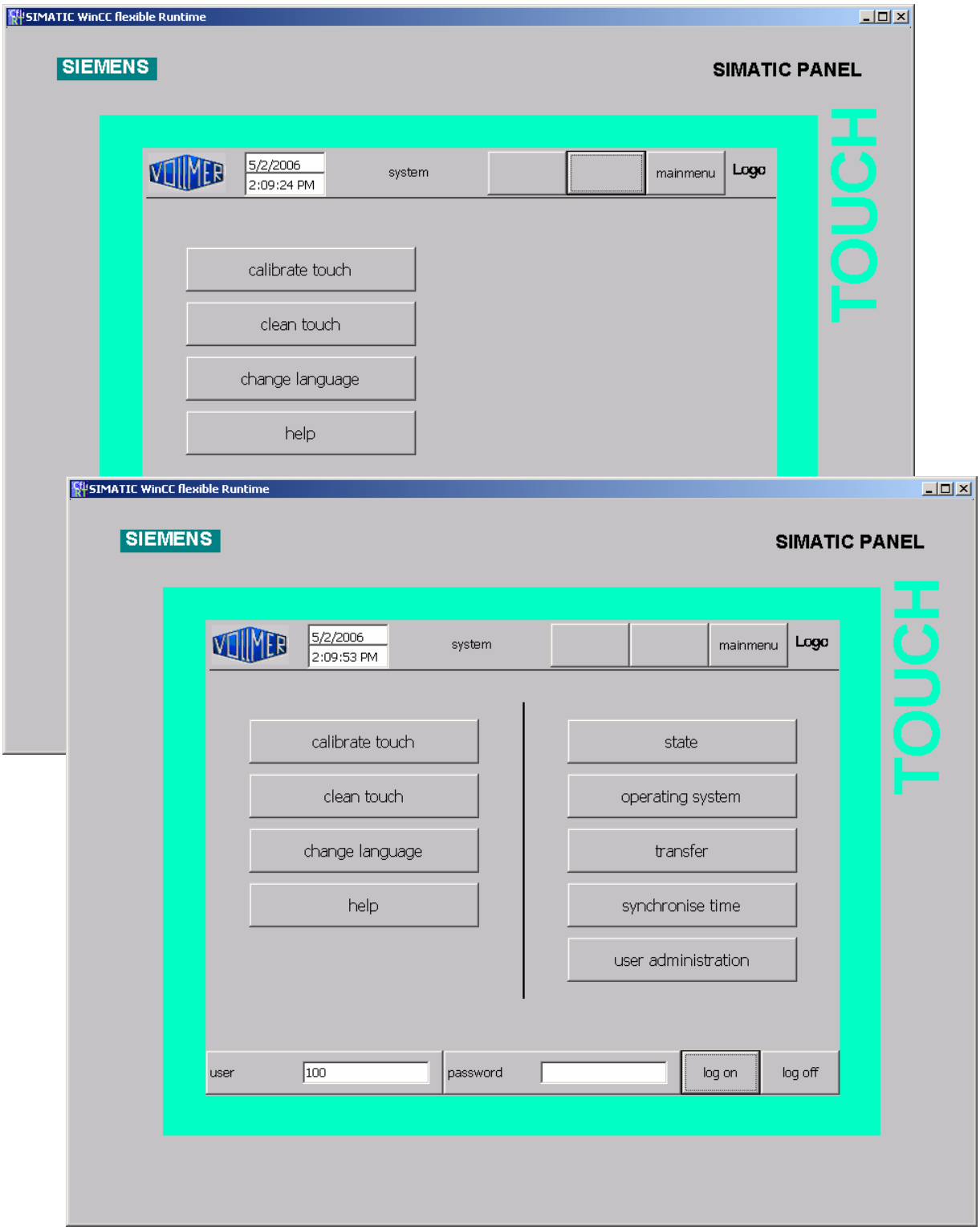
## 5.6 Faultmessage




„Fault Message“ provides an overview of the current faults. A current fault can be quit by pressing the „Quit Fault“ button.

## 5.7 System

Is designed for further operations of administrators. Upon having administrator rights, selections and buttons appear in the system window.



### 5.7.1 Calibrate Touch screen

Depending on the installation position and viewing angle, it is possible that a more or less strong parallax may occur when operating the touch panel screen. In order to prevent resulting operating errors, the screen can be calibrated during the start-up phase and normal operation.

1. Open the "Calibrate Touch"" dialog.
2. Five calibration crosses appear in succession on the screen. Follow the instructions provided on the screen and touch the respective calibration cross.
3. To apply the new calibration:
Touch any point on the screen after the calibration process for the new calibration data to take effect.
4. To discard the new calibration: Wait 30 seconds (until the counter reaches zero) before rejecting the new calibration data.

If calibration is not performed correctly, the new values are not accepted.

**Warning**
During calibration it is not possible to operate the HMI. The control must be in a safe state before starting the calibration.

### 5.7.2 Clean Touch

The HMI can be cleaned when switched on and when operating normally if touchscreen input has been suppressed by means of an appropriately configured operating element (Clean Screen). After the Clean Screen function has been activated, all input via the touchscreen operating elements is deactivated for a defined period of time. The time remaining until the end of operating suppression is indicated by a progress bar.

**Warning**
During cleaning it is not possible to operate the HMI. The control must be in a safe state before starting the calibration.
Suppressing operating elements Only clean the screen during operation when Clean Screen is activated. Note the end of operating suppression by the Clean Screen. Otherwise, incorrect operations may be initiated.

### 5.7.3 Change language

Various languages are stored within the system and can be selected by pressing the „Change Language“ button. After pressing the button numerous times the original language appears again.

### 5.7.4 Help

Selection of the help system.

### 5.7.5 Status Variable

*Operated by administrators.*
Selection window „Status Variable“

### 5.7.6 Operating System

*Operated by administrators.*
This function enables to switch to the operating system. A detailed description can be found in the WinCC documentation.

**Warning**
If the HMI is changed to the operating system it is not possible to operate the HMI. The control must be in a safe state before starting the calibration.

### 5.7.7 Transfer

*Operated by administrators.*
The transfer function switches the system to the transfer mode. A detailed description can be found in the WinCC documentation.

**Warning**
If the HMI is in the transfer mode it is not possible to operate the HMI. The control must be in a safe state before starting the calibration.

### 5.7.8 Synchronize Time

*Operated by administrators.*
The system time of the HMI and the PLC are hereby synchronized. The PLC is presetted with the system time of the HMI.

### 5.7.9 User Management

*Operated by administrators.*
Selection screen „User Management“

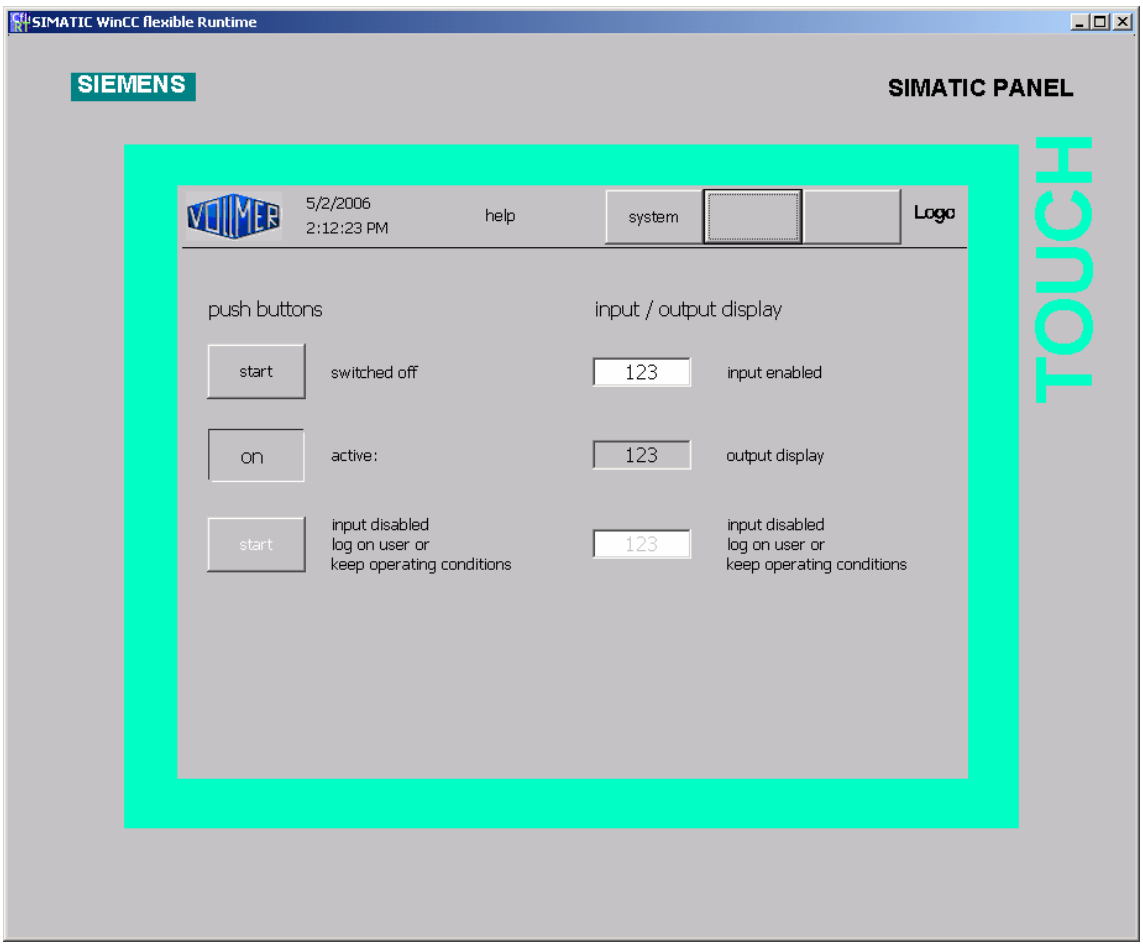
### 5.7.10 Log On/Off User

It is possible to log on/off users with the system. This is required due to the fact that it is necessary to generate higher level operating rights. The operator and password entry is to be acknowledged with the return key. Logging on and off is done by pressing the corresponding button.

### 5.7.11 Date / Time

In the navigation it is possible to change the date and time. Entries are to be acknowledged by pressing the return key. If the format is not correctly inputted , the old data is further used.

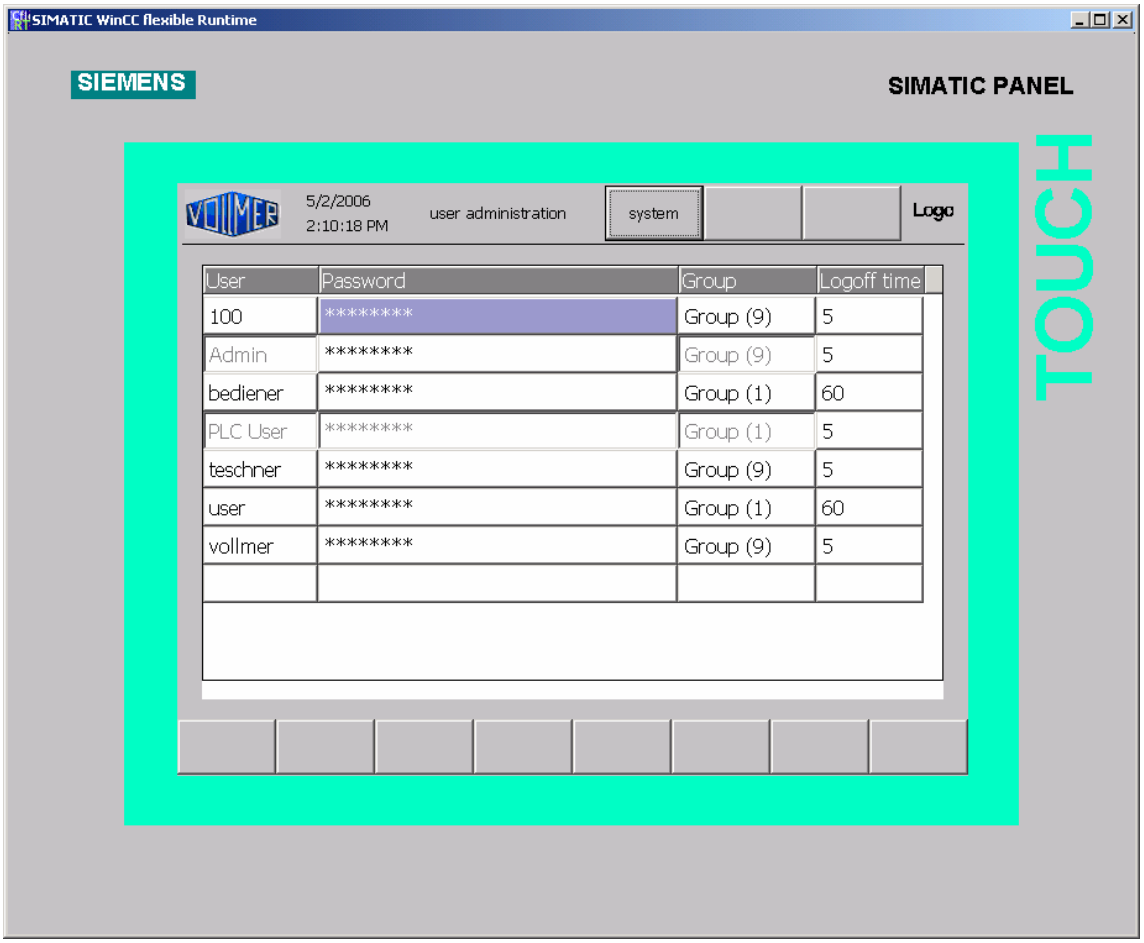
## 5.8 Help




Self explanatory

## 5.9 User administration

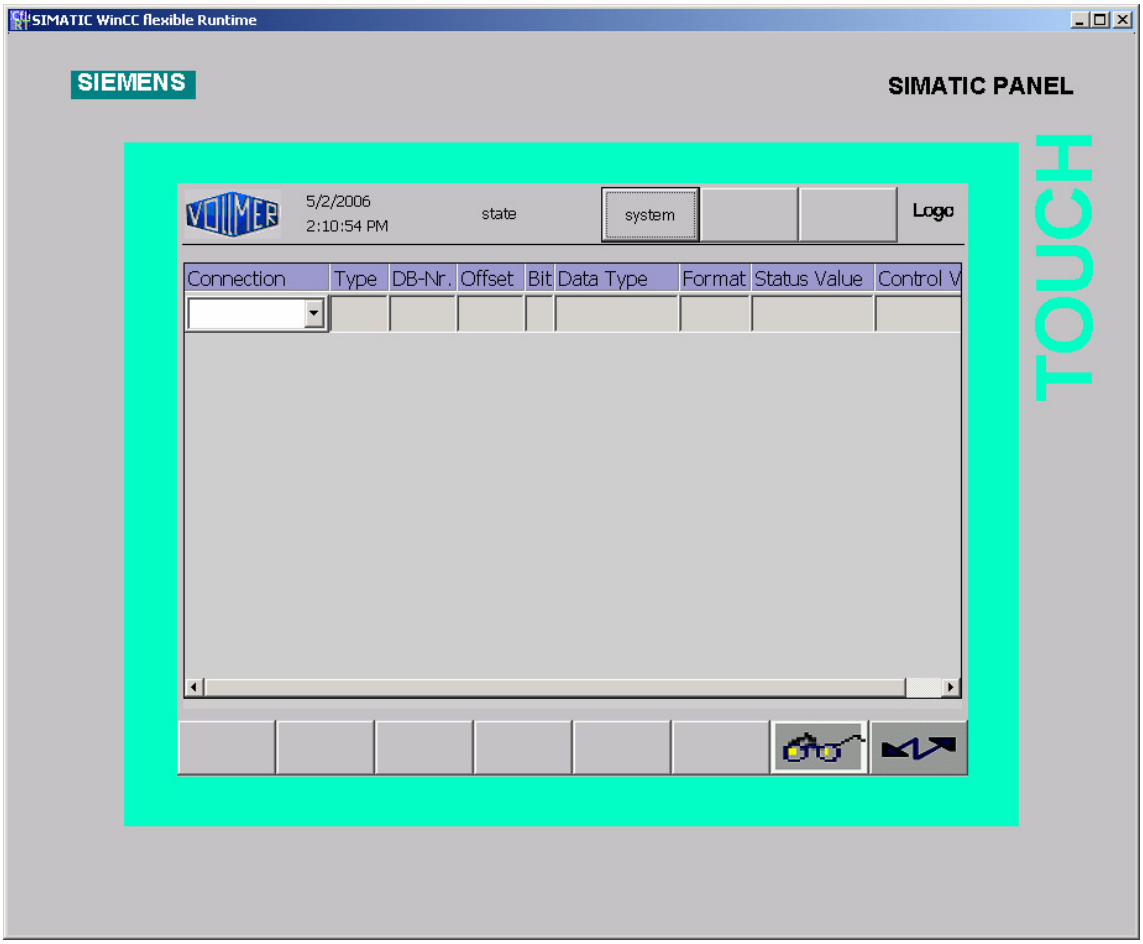
*Operated by administrators.*




The user management is a standard application of WinCC flexible. With administrator rights, it is possible to add additional users. The general operation of the HMI is also possible without any rights. Functions that require rights have been explained and marked in the user manual. Further information of the user management can be found in the WinCC flexible manual.

## 5.10 State

*Operated by administrators.*




**Danger**

This screen is the same as the STEP 7 function „Variable observe/control“. Operation only via qualified personnel. Further information is to be found in the corresponding Siemens System user manuals.

# 6 Customer Interface

## 6.1 Statesignals (Vollmer→Customer)

| Adresse | Datentyp | Signal |
|---|---|---|
| A 6.0 | BOOL | Lünette 1 horiz. hintere Endlage / steady 1 horizontal rear limitposition |
| A 6.1 | BOOL | Lünette 1 horiz. in Position / steady 1 horizontal in position |
| A 6.2 | BOOL | Lünette 1 vertik. hintere Endlage / steady 1 vertical rear limitposition |
| A 6.3 | BOOL | Lünette 1 vertik. in Position / steady 1 vertical in position |
| A 6.4 | BOOL | Lünette 2 horiz. hintere Endlage / steady 2 horizontal rear limitposition |
| A 6.5 | BOOL | Lünette 2 horiz. in Position / steady 2 horizontal in position |
| A 6.6 | BOOL | Lünette 2 vertik. hintere Endlage / steady 2 vertical rear limitposition |
| A 6.7 | BOOL | Lünette 2 vertik. in Position / steady 2 vertical in position |
| A 7.0 | BOOL | Lünette 3 horiz. hintere Endlage / steady 3 horizontal rear limitposition |
| A 7.1 | BOOL | Lünette 3 horiz. in Position / steady 3 horizontal in position |
| A 7.2 | BOOL | Lünette 3 vertik. hintere Endlage / steady 3 vertical rear limitposition |
| A 7.3 | BOOL | Lünette 3 vertik. in Position / steady 3 vertical in position |
| A 7.4 | BOOL | Freigabe / ackknowlegde |
| A 7.5 | BOOL | Lünetten in Service / steadys in service |
| A 7.6 | BOOL | VSS kalibrieren / VSS calibrate |
| A 7.7 | BOOL | VSS Messung ein / VSS measuring on |

## 6.2 Controlsignals (Customer→Vollmer)

| Adresse | Datentyp | Signal |
|---|---|---|
| E 5.0 | BOOL | Vor Lünetten 1-5 / forward steady 1-5 |
| E 5.1 | BOOL | Zurück Lünetten 1-5 / backward steady 1-5 |
| E 5.2 | BOOL | Umkehrpunkt links / turnaround left |
| E 5.3 | BOOL | Umkehrpunkt rechts / turnaround right |
| E 5.4 | BOOL | Stop / stop |
| E 5.5 | BOOL | Daten gültig / data ok |
| E 5.6 | BOOL | Automatik / auto |
| E 5.7 | BOOL | Datensatz Bit 0 / select datarecord bit 0 |
| E 6.0 | BOOL | Datensatz Bit 1 / select datarecord bit 1 |
| E 6.1 | BOOL | Datensatz Bit 2 / select datarecord bit 2 |
| E 6.2 | BOOL | Datensatz Bit 3 / select datarecord bit 3 |
| E 6.3 | BOOL | Reserve |
| E 6.4 | BOOL | Reserve |
| E 6.5 | BOOL | Reserve |
| E 6.6 | BOOL | VSS Messen Ein / Aus |
| E 6.7 | BOOL | VSS Kalibrierwert setzen |
| E 7.0 | BOOL | VSS Ist Kalibriert |

# 7 Appendix

## 7.1 Default Datasets

| Name | Typ | Anfangswert | Kommentar |
|---|---|---|---|
| **Datensatz1** | STRUCT | | |
| Sollwert_L1_H | INT | 2 | Sollwert_L1_H |
| Sollwert_L1_V | INT | 2 | Sollwert_L1_V |
| Sollwert_L2_H | INT | 2 | Sollwert_L2_H |
| Sollwert_L2_V | INT | 2 | Sollwert_L2_V |
| Sollwert_L3_H | INT | 2 | Sollwert_L3_H |
| Sollwert_L3_V | INT | 2 | Sollwert_L3_V |
| Sollwert_L4_H | INT | 2 | Sollwert_L4_H |
| Sollwert_L4_V | INT | 2 | Sollwert_L4_V |
| Sollwert_L5_H | INT | 2 | Sollwert_L5_H |
| Sollwert_L5_V | INT | 2 | Sollwert_L5_V |
| Datum | DATE | D#1990-1-1 | Datum |
| Uhrzeit | TIME_OF_DAY | TOD#0:0:0.0 | Uhrzeit |
| Reserve | INT | 0 | |
| Walzentyp | STRING[40] | '' | |
| Bemerkung | STRING[80] | '' | |
| | END_STRUCT | | |
| Datensatz2 | STRUCT | | |
| Sollwert_L1_H | INT | 2 | Sollwert_L1_H |
| Sollwert_L1_V | INT | 2 | Sollwert_L1_V |
| Sollwert_L2_H | INT | 2 | Sollwert_L2_H |
| Sollwert_L2_V | INT | 2 | Sollwert_L2_V |
| Sollwert_L3_H | INT | 2 | Sollwert_L3_H |
| Sollwert_L3_V | INT | 2 | Sollwert_L3_V |
| Sollwert_L4_H | INT | 2 | Sollwert_L4_H |
| Sollwert_L4_V | INT | 2 | Sollwert_L4_V |
| Sollwert_L5_H | INT | 2 | Sollwert_L5_H |
| Sollwert_L5_V | INT | 2 | Sollwert_L5_V |
| Datum | DATE | D#1990-1-1 | Datum |
| Uhrzeit | TIME_OF_DAY | TOD#0:0:0.0 | Uhrzeit |
| Reserve | INT | 0 | |
| Walzentyp | STRING[40] | '' | |
| Bemerkung | STRING[80] | '' | |
| | END_STRUCT | | |
| **Datensatz3** | STRUCT | | |
| Sollwert_L1_H | INT | 2 | Sollwert_L1_H |
| Sollwert_L1_V | INT | 2 | Sollwert_L1_V |
| Sollwert_L2_H | INT | 2 | Sollwert_L2_H |
| Sollwert_L2_V | INT | 2 | Sollwert_L2_V |
| Sollwert_L3_H | INT | 2 | Sollwert_L3_H |
| Sollwert_L3_V | INT | 2 | Sollwert_L3_V |
| Sollwert_L4_H | INT | 2 | Sollwert_L4_H |
| Sollwert_L4_V | INT | 2 | Sollwert_L4_V |
| Sollwert_L5_H | INT | 2 | Sollwert_L5_H |
| Sollwert_L5_V | INT | 2 | Sollwert_L5_V |
| Datum | DATE | D#1990-1-1 | Datum |
| Uhrzeit | TIME_OF_DAY | TOD#0:0:0.0 | Uhrzeit |
| Reserve | INT | 0 | |
| Walzentyp | STRING[40] | '' | |
| Bemerkung | STRING[80] | '' | |
| | END_STRUCT | | |

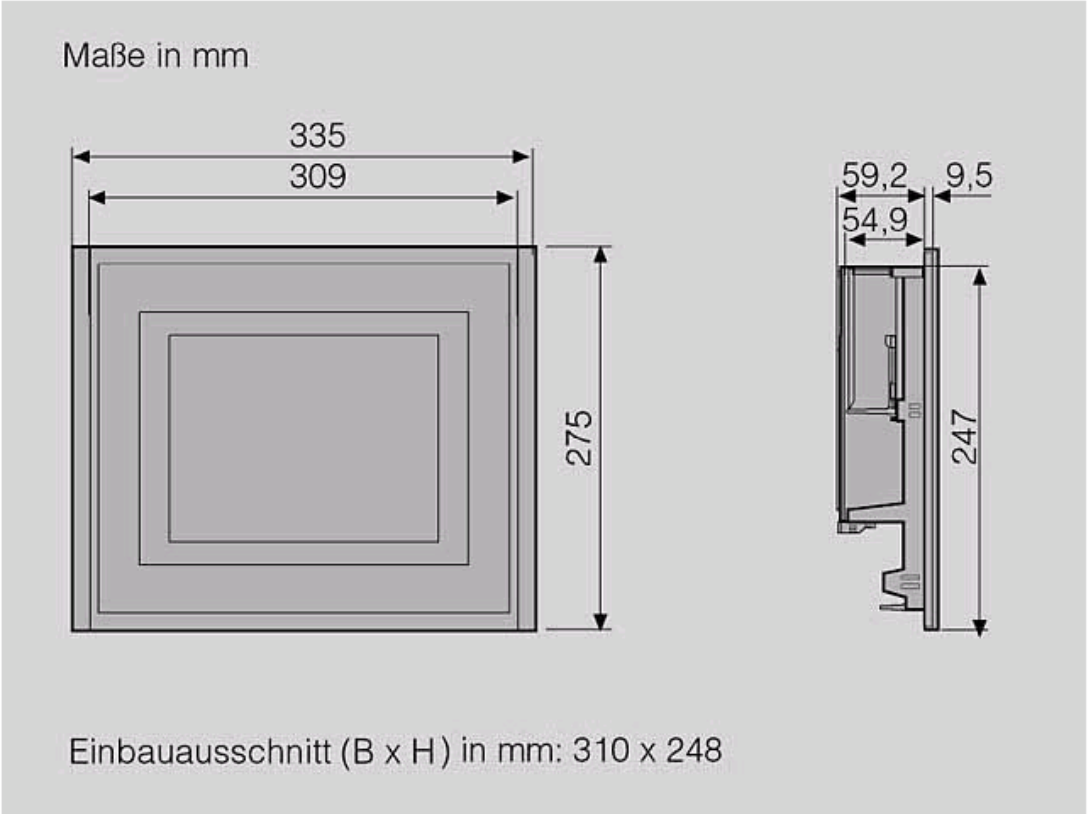
| Name | Typ | Anfangswert | Kommentar |
|---|---|---|---|
| **Datensatz4** | STRUCT | | |
| Sollwert_L1_H | INT | 2 | Sollwert_L1_H |
| Sollwert_L1_V | INT | 2 | Sollwert_L1_V |
| Sollwert_L2_H | INT | 2 | Sollwert_L2_H |
| Sollwert_L2_V | INT | 2 | Sollwert_L2_V |
| Sollwert_L3_H | INT | 2 | Sollwert_L3_H |
| Sollwert_L3_V | INT | 2 | Sollwert_L3_V |
| Sollwert_L4_H | INT | 2 | Sollwert_L4_H |
| Sollwert_L4_V | INT | 2 | Sollwert_L4_V |
| Sollwert_L5_H | INT | 2 | Sollwert_L5_H |
| Sollwert_L5_V | INT | 2 | Sollwert_L5_V |
| Datum | DATE | D#1990-1-1 | Datum |
| Uhrzeit | TIME_OF_DAY | TOD#0:0:0.0 | Uhrzeit |
| Reserve | INT | 0 | |
| Walzentyp | STRING[40] | '' | |
| Bemerkung | STRING[80] | '' | |
| | END_STRUCT | | |
| **Datensatz5** | STRUCT | | |
| Sollwert_L1_H | INT | 0 | Sollwert_L1_H |
| Sollwert_L1_V | INT | 2 | Sollwert_L1_V |
| Sollwert_L2_H | INT | 2 | Sollwert_L2_H |
| Sollwert_L2_V | INT | 2 | Sollwert_L2_V |
| Sollwert_L3_H | INT | 2 | Sollwert_L3_H |
| Sollwert_L3_V | INT | 2 | Sollwert_L3_V |
| Sollwert_L4_H | INT | 2 | Sollwert_L4_H |
| Sollwert_L4_V | INT | 2 | Sollwert_L4_V |
| Sollwert_L5_H | INT | 2 | Sollwert_L5_H |
| Sollwert_L5_V | INT | 2 | Sollwert_L5_V |
| Datum | DATE | D#1990-1-1 | Datum |
| Uhrzeit | TIME_OF_DAY | TOD#0:0:0.0 | Uhrzeit |
| Reserve | INT | 0 | |
| Walzentyp | STRING[40] | '' | |
| Bemerkung | STRING[80] | '' | |
| | END_STRUCT | | |
| **Datensatz6** | STRUCT | | |
| Sollwert_L1_H | INT | 2 | Sollwert_L1_H |
| Sollwert_L1_V | INT | 2 | Sollwert_L1_V |
| Sollwert_L2_H | INT | 2 | Sollwert_L2_H |
| Sollwert_L2_V | INT | 2 | Sollwert_L2_V |
| Sollwert_L3_H | INT | 2 | Sollwert_L3_H |
| Sollwert_L3_V | INT | 2 | Sollwert_L3_V |
| Sollwert_L4_H | INT | 2 | Sollwert_L4_H |
| Sollwert_L4_V | INT | 2 | Sollwert_L4_V |
| Sollwert_L5_H | INT | 2 | Sollwert_L5_H |
| Sollwert_L5_V | INT | 2 | Sollwert_L5_V |
| Datum | DATE | D#1990-1-1 | Datum |
| Uhrzeit | TIME_OF_DAY | TOD#0:0:0.0 | Uhrzeit |
| Reserve | INT | 0 | |
| Walzentyp | STRING[40] | '' | |
| Bemerkung | STRING[80] | '' | |
| | END_STRUCT | | |

| Name | Typ | Anfangswert | Kommentar |
|---|---|---|---|
| **Datensatz7** | STRUCT | | |
| Sollwert_L1_H | INT | 2 | Sollwert_L1_H |
| Sollwert_L1_V | INT | 2 | Sollwert_L1_V |
| Sollwert_L2_H | INT | 2 | Sollwert_L2_H |
| Sollwert_L2_V | INT | 2 | Sollwert_L2_V |
| Sollwert_L3_H | INT | 2 | Sollwert_L3_H |
| Sollwert_L3_V | INT | 2 | Sollwert_L3_V |
| Sollwert_L4_H | INT | 2 | Sollwert_L4_H |
| Sollwert_L4_V | INT | 2 | Sollwert_L4_V |
| Sollwert_L5_H | INT | 2 | Sollwert_L5_H |
| Sollwert_L5_V | INT | 2 | Sollwert_L5_V |
| Datum | DATE | D#1990-1-1 | Datum |
| Uhrzeit | TIME_OF_DAY | TOD#0:0:0.0 | Uhrzeit |
| Reserve | INT | 0 | |
| Walzentyp | STRING[40] | '' | |
| Bemerkung | STRING[80] | '' | |
| | END_STRUCT | | |
| **Datensatz8** | STRUCT | | |
| Sollwert_L1_H | INT | 2 | Sollwert_L1_H |
| Sollwert_L1_V | INT | 2 | Sollwert_L1_V |
| Sollwert_L2_H | INT | 2 | Sollwert_L2_H |
| Sollwert_L2_V | INT | 2 | Sollwert_L2_V |
| Sollwert_L3_H | INT | 2 | Sollwert_L3_H |
| Sollwert_L3_V | INT | 2 | Sollwert_L3_V |
| Sollwert_L4_H | INT | 2 | Sollwert_L4_H |
| Sollwert_L4_V | INT | 2 | Sollwert_L4_V |
| Sollwert_L5_H | INT | 2 | Sollwert_L5_H |
| Sollwert_L5_V | INT | 2 | Sollwert_L5_V |
| Speicherdatum | DATE_AND_TIME | DT#90-1-1-0:0:0.000 | Speicherdatum |
| Walzentyp | STRING[40] | '' | |
| Bemerkung | STRING[80] | '' | |
| | END_STRUCT | | |
| **Datensatz9** | STRUCT | | |
| Sollwert_L1_H | INT | 2 | Sollwert_L1_H |
| Sollwert_L1_V | INT | 2 | Sollwert_L1_V |
| Sollwert_L2_H | INT | 2 | Sollwert_L2_H |
| Sollwert_L2_V | INT | 2 | Sollwert_L2_V |
| Sollwert_L3_H | INT | 2 | Sollwert_L3_H |
| Sollwert_L3_V | INT | 2 | Sollwert_L3_V |
| Sollwert_L4_H | INT | 2 | Sollwert_L4_H |
| Sollwert_L4_V | INT | 2 | Sollwert_L4_V |
| Sollwert_L5_H | INT | 2 | Sollwert_L5_H |
| Sollwert_L5_V | INT | 2 | Sollwert_L5_V |
| Datum | DATE | D#1990-1-1 | Datum |
| Uhrzeit | TIME_OF_DAY | TOD#0:0:0.0 | Uhrzeit |
| Reserve | INT | 0 | |
| Walzentyp | STRING[40] | '' | |
| Bemerkung | STRING[80] | '' | |
| | END_STRUCT | | |

| Name | Typ | Anfangswert | Kommentar |
|---|---|---|---|
| **Datensatz10** | STRUCT | | |
| Sollwert_L1_H | INT | 2 | Sollwert_L1_H |
| Sollwert_L1_V | INT | 2 | Sollwert_L1_V |
| Sollwert_L2_H | INT | 2 | Sollwert_L2_H |
| Sollwert_L2_V | INT | 2 | Sollwert_L2_V |
| Sollwert_L3_H | INT | 2 | Sollwert_L3_H |
| Sollwert_L3_V | INT | 2 | Sollwert_L3_V |
| Sollwert_L4_H | INT | 2 | Sollwert_L4_H |
| Sollwert_L4_V | INT | 2 | Sollwert_L4_V |
| Sollwert_L5_H | INT | 2 | Sollwert_L5_H |
| Sollwert_L5_V | INT | 2 | Sollwert_L5_V |
| Datum | DATE | D#1990-1-1 | Datum |
| Uhrzeit | TIME_OF_DAY | TOD#0:0:0.0 | Uhrzeit |
| Reserve | INT | 0 | |
| Walzentyp | STRING[40] | '' | |
| Bemerkung | STRING[80] | '' | |
| | END_STRUCT | | |
| **Datensatz11** | STRUCT | | |
| Sollwert_L1_H | INT | 2 | Sollwert_L1_H |
| Sollwert_L1_V | INT | 2 | Sollwert_L1_V |
| Sollwert_L2_H | INT | 2 | Sollwert_L2_H |
| Sollwert_L2_V | INT | 2 | Sollwert_L2_V |
| Sollwert_L3_H | INT | 2 | Sollwert_L3_H |
| Sollwert_L3_V | INT | 2 | Sollwert_L3_V |
| Sollwert_L4_H | INT | 2 | Sollwert_L4_H |
| Sollwert_L4_V | INT | 2 | Sollwert_L4_V |
| Sollwert_L5_H | INT | 2 | Sollwert_L5_H |
| Sollwert_L5_V | INT | 2 | Sollwert_L5_V |
| Datum | DATE | D#1990-1-1 | Datum |
| Uhrzeit | TIME_OF_DAY | TOD#0:0:0.0 | Uhrzeit |
| Reserve | INT | 0 | |
| Walzentyp | STRING[40] | '' | |
| Bemerkung | STRING[80] | '' | |
| | END_STRUCT | | |
| **Datensatz12** | STRUCT | | |
| Sollwert_L1_H | INT | 2 | Sollwert_L1_H |
| Sollwert_L1_V | INT | 2 | Sollwert_L1_V |
| Sollwert_L2_H | INT | 2 | Sollwert_L2_H |
| Sollwert_L2_V | INT | 2 | Sollwert_L2_V |
| Sollwert_L3_H | INT | 2 | Sollwert_L3_H |
| Sollwert_L3_V | INT | 2 | Sollwert_L3_V |
| Sollwert_L4_H | INT | 2 | Sollwert_L4_H |
| Sollwert_L4_V | INT | 2 | Sollwert_L4_V |
| Sollwert_L5_H | INT | 2 | Sollwert_L5_H |
| Sollwert_L5_V | INT | 2 | Sollwert_L5_V |
| Datum | DATE | D#1990-1-1 | Datum |
| Uhrzeit | TIME_OF_DAY | TOD#0:0:0.0 | Uhrzeit |
| Reserve | INT | 0 | |
| Walzentyp | STRING[40] | '' | |
| Bemerkung | STRING[80] | '' | |
| | END_STRUCT | | |

| Name | Typ | Anfangswert | Kommentar |
|---|---|---|---|
| **Datensatz13** | STRUCT | | |
| Sollwert_L1_H | INT | 2 | Sollwert_L1_H |
| Sollwert_L1_V | INT | 2 | Sollwert_L1_V |
| Sollwert_L2_H | INT | 2 | Sollwert_L2_H |
| Sollwert_L2_V | INT | 2 | Sollwert_L2_V |
| Sollwert_L3_H | INT | 2 | Sollwert_L3_H |
| Sollwert_L3_V | INT | 2 | Sollwert_L3_V |
| Sollwert_L4_H | INT | 2 | Sollwert_L4_H |
| Sollwert_L4_V | INT | 2 | Sollwert_L4_V |
| Sollwert_L5_H | INT | 2 | Sollwert_L5_H |
| Sollwert_L5_V | INT | 2 | Sollwert_L5_V |
| Datum | DATE | D#1990-1-1 | Datum |
| Uhrzeit | TIME_OF_DAY | TOD#0:0:0.0 | Uhrzeit |
| Reserve | INT | 0 | |
| Walzentyp | STRING[40] | '' | |
| Bemerkung | STRING[80] | '' | |
| | END_STRUCT | | |
| **Datensatz14** | STRUCT | | |
| Sollwert_L1_H | INT | 2 | Sollwert_L1_H |
| Sollwert_L1_V | INT | 2 | Sollwert_L1_V |
| Sollwert_L2_H | INT | 2 | Sollwert_L2_H |
| Sollwert_L2_V | INT | 2 | Sollwert_L2_V |
| Sollwert_L3_H | INT | 2 | Sollwert_L3_H |
| Sollwert_L3_V | INT | 2 | Sollwert_L3_V |
| Sollwert_L4_H | INT | 2 | Sollwert_L4_H |
| Sollwert_L4_V | INT | 2 | Sollwert_L4_V |
| Sollwert_L5_H | INT | 2 | Sollwert_L5_H |
| Sollwert_L5_V | INT | 2 | Sollwert_L5_V |
| Datum | DATE | D#1990-1-1 | Datum |
| Uhrzeit | TIME_OF_DAY | TOD#0:0:0.0 | Uhrzeit |
| Reserve | INT | 0 | |
| Walzentyp | STRING[40] | '' | |
| Bemerkung | STRING[80] | '' | |
| | END_STRUCT | | |
| **Datensatz15** | STRUCT | | |
| Sollwert_L1_H | INT | 2 | Sollwert_L1_H |
| Sollwert_L1_V | INT | 2 | Sollwert_L1_V |
| Sollwert_L2_H | INT | 2 | Sollwert_L2_H |
| Sollwert_L2_V | INT | 2 | Sollwert_L2_V |
| Sollwert_L3_H | INT | 2 | Sollwert_L3_H |
| Sollwert_L3_V | INT | 2 | Sollwert_L3_V |
| Sollwert_L4_H | INT | 2 | Sollwert_L4_H |
| Sollwert_L4_V | INT | 2 | Sollwert_L4_V |
| Sollwert_L5_H | INT | 2 | Sollwert_L5_H |
| Sollwert_L5_V | INT | 2 | Sollwert_L5_V |
| Datum | DATE | D#1990-1-1 | Datum |
| Uhrzeit | TIME_OF_DAY | TOD#0:0:0.0 | Uhrzeit |
| Reserve | INT | 0 | |
| Walzentyp | STRING[40] | '' | |
| Bemerkung | STRING[80] | '' | |
| | END_STRUCT | | |

## 7.2 Scale drawing




TP 270 10"

# 8 Notes